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Climate policy will hit tipping points but some Middle East countries intend to get ahead of the coming avalanche. Cover story by Robin Mills.

IN THIS ISSUE

Climate Policy will hit tipping points but some Middle East Countries intend to get ahead of the coming avalanche

How India's CoVid-19 surge will affect the energy industry

Abu Dhabi's Murban futures will enhance the efficiency of global oil pricing

Authored by Robin Mills, Maryam Salman, Maryem El Farsaoui

INSIDE: MIDDLE EAST ENERGY REVIEW

Rig-count snapshot • Fuel Prices & Subsidy Reforms • OPEC Watch • Energy Scorecard

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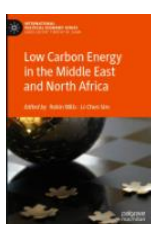
Qamar Energy, headquartered in Dubai, is the leading regionally-based energy consultancy on the Middle East and North Africa (MENA).

The QAMAR NEWSLETTER is a monthly publication that provides critical appraisal and focussed assessments of the month's energy developments across the MENA region.



Low Carbon Energy in the Middle East and North Africa, Robin Mills, Li-Chen Sim

Powering Iraq: Challenges Facing Iraq's Electricity Sector, Robin Mills & Maryam Salman

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QAMAR ENERGY قمر

CLIMATE POLICY WILL HIT TIPPING POINTS BUT SOME MIDDLE EAST COUNTRIES INTEND TO GET AHEAD OF THE COMING AVALANCHE

Robin Mills • *A version of this article appeared in The National, May 04 '21* • COVER STORY

"The falling of small stones ... starts an avalanche in the mountains", says the wizard Gandalf in the Lord of the Rings. From an environmental perspective, the small stones are the growing number of global initiatives and the avalanche is the radical transformation of the Middle East's energy system.

In December, the UAE filed its updated Nationally Determined Contribution under the Paris Agreement on climate change, with various commitments such as a 23.5 per cent cut to greenhouse gas emissions by 2030. The hydrogen alliance between ADNOC, ADQ and Mubadala was announced a month later.

In early April, Saudi Arabia's crown prince Mohammed bin Salman announced the Saudi Green Initiative, with goals including the planting of 10 billion trees and the generation of half of the country's electricity from renewables by 2030. Seven contracts were signed for solar power plants, hastening the kingdom's second round of renewable energy tenders for the generation of 870 megawatts of power. A decision on tenders for 1.2 gigawatts of power is expected later this quarter.

Only five years ago, the second phase of Dubai's Mohammed bin Rashid Al Maktoum Solar Park set a record low cost at 5.60 US cents per kilowatt-hour. The latest Saudi round for the Faisaliyah (Shuaiba) plant near Jeddah has achieved 1.04 cents – a continuation of the astonishing fall in costs over the past half-decade. These initiatives are very much in line with the zeitgeist of the latest US climate summit, which kicked off on Earth Day on April 22.
Several big economies have committed to net-zero carbon emissions by 2050 or 2060, with the US and EU unveiling ambitious green stimulus plans.

These are underpinned by tangible achievements such as the global sales of electric vehicles that were up 140 per cent from a year ago in the first quarter, battery costs that are closing in on cost-parity with petrol cars and European carbon prices rising to $54 a tonne. The EU is moving towards "carbon border tariffs" on imports from countries without comparable prices on carbon. International oil companies – from Equinor in Norway to ExxonMobil in the US – are under increasing pressure to disclose their greenhouse gas emissions and their plans to ultimately to eliminate them.

One of the most striking announcements from the climate event was the formation of the Net Zero Producers' Forum that links big oil and gas exporters such as Saudi Arabia, Qatar, the US, Canada and Norway. The group's initial statement mentioned the circular carbon economy, a favourite term of Riyadh's, along with other aims such as emission reductions and economic diversification. These countries face common but different challenges in their hydrocarbon industries. Canada produces high-carbon heavy oil, primarily from one province, Alberta. Qatar is the world's leading exporter of liquefied natural gas, followed by the US and Australia.

The US is the biggest oil and gas producer and the centre of shale development. However, it is troubled by high levels of gas flaring. Norway is the top hydrocarbon producer in Europe and a pioneer of offshore technology and carbon capture. And Saudi Arabia remains holder of one of the world's biggest oil reserves and de facto leader of OPEC as the largest producer.

The intent of the net-zero group seems clear: to give major petroleum producers a reason to support climate action rather than fear it. Subnational jurisdictions with a major influence over federal politics, such as Alberta and Texas, also need reasons to come on board. The Biden administration in the US is trying to build climate coalition at home and abroad that is more durable than that of former president Barack Obama, which was so casually demolished by his successor Donald Trump.

All the members have emission challenges to overcome and contributions of projects and expertise to make. However, the leading national oil companies and their host countries face the biggest challenge. As stewards of the natural sovereign wealth, they cannot simply switch into renewable energy, biofuels or electric-vehicle charging, as big European oil companies do. Some of the goals of the net-zero forum are straightforward, such as the reduction of methane leakages and use of carbon capture and storage. Hydrogen, the magic fire that produces only water when burnt, is not specifically mentioned but could fit within the "clean-energy" rubric. Such types of technology clean up the petroleum industry without fundamentally transforming it. All five member countries are already leaders in carbon capture and storage.

Others involve a deeper transmutation of company and economy. The circular carbon economy would be characterised by useful products such as carbon fibres, plastic and composite substitutes for metals and graphene spun out of oil and gas. These materials would be recycled and the waste carbon dioxide used to make cement and other long-lived ceramics or injected back into the ground for permanent safe disposal. Components of the circular carbon economy already exist but as an operational whole, it remains a concept.

"Diversification from reliance on hydrocarbon revenue" is a much more vague part of the joint communique. However, it has long been a goal of oil exporters despite being tough to achieve. The mutual support of the five members and others who may join in future is essential but not sufficient for such a radical reimagining. Climate policy will increasingly hit tipping points. Increasing the scale of new and clean technology brings a fall in costs and therefore expands their market further. As they become profitable businesses, they attract the employment, investment and political support that used to go to high-carbon industries. Some Middle East countries hear the first rumblings and intend to get ahead of the coming avalanche.

HOW INDIA'S COVID-19 SURGE WILL AFFECT THE ENERGY INDUSTRY

Robin Mills • *A version of this article appeared in The National, Apr. 26, '21*

As India battles the world's worst coronavirus surge, the country is literally running short of oxygen. Across the Himalayas, the Chinese economy has returned to being the world's growth engine. A full recovery of the global energy industry needs both the Asian giants operating at full steam. India recorded about 350,000 new Covid-19 cases on Saturday, three times the amount South Korea has experienced from the onset of the pandemic. Crematoria are overwhelmed and their structures are literally collapsing under the strain. Deaths are probably heavily under-reported. Meanwhile, election campaigns and mass rallies go on in five regions, the Kumbh Mela religious gathering is proceeding and the Indian Premier League cricket tournament is being played around the country, albeit with no public spectators.

New Delhi has introduced a week-long lockdown and Maharashtra will be locked down until the end of the month. Similar to what happened last April, migrant workers seeking to return home crowd bus stations, threatening further contagion. A new and possibly more infectious Covid-19 strain is circulating while only 1.4 per cent of the population has been fully vaccinated. India is not the only hard-hit country. Iran, Brazil, the Philippines and Turkey have faced renewed waves and cases in Europe have risen recently amid a stuttering delivery of vaccinations. But as infection rates also jump in Pakistan, Bangladesh and Nepal, the subcontinent's suffering is on a scale not observed elsewhere.

Before the latest surge in infections, India's petrol sales were about 750,000 barrels per day while diesel – which is used in road haulage, buses and trains – had 1.75 million bpd in sales. In total, this was down by about 100,000 bpd from just before the pandemic, but a sharp recovery from last April's low of 300,000 bpd of petrol and 800,000 bpd of diesel. Now, movement restrictions threaten another slump. Along with local curfews, the UAE, the UK, the US, Canada and others have suspended flights from India. The new lockdowns could slash between 550,000 bpd and 600,000 bpd from overall road fuel demand and another 100,000 bpd from jet fuel. As India battles the world's worst coronavirus surge, the country is literally running short of oxygen. Across the Himalayas, the Chinese economy has returned to being the world's growth engine. A full recovery of the global energy industry needs both the Asian giants operating at full steam.

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Indian refiners have begun to think about cutting runs, weakening the market for physical crude based on the Dubai benchmark. This suggests that cuts in Gulf producers' official selling prices may be required. Even in February, before the rise in infections, Indian oil minister Dharmendra Pradhan was complaining that prices were too high and said OPEC's production cuts were too steep, cramping Indian demand.

The OPEC+ group holds its next meeting on Wednesday. Russian suggestions are that the discussions will focus on assessing the market, rather than revising the production plans reached at the last gathering – namely to add 350,000 bpd of supply in each of May and June, and 400,000 bpd in July. Despite US demand looking stronger, the expected losses from India are roughly equal to the extra oil planned to return over the next two months.

Optimism over vaccines, along with OPEC+'s restraint, drove Brent crude prices to more than $69 a barrel early last month. Now, India's travails remind us of how difficult a full recovery from the pandemic is. After an initial denial, China took the virus seriously and its movement restrictions stamped out clusters of cases. East Asian neighbours Japan, South Korea, Taiwan and Vietnam, along with Australia and New Zealand, succeeded with less drastic measures. However, past infection and vaccination rates in these countries are very low, meaning they are exposed to outbreaks if they lift quarantines and restrictions on international travel. China's disease control chief has said the efficacy rates of local vaccines need to be improved.

Vaccinations promise a return to normality within a few months in the US, Europe and a few other countries including the UAE. But at current rates, most of the world will not attain high inoculation rates for years and will continue to export renewed infections. The more the virus rages unchecked through India and other countries and the more large numbers of people refuse vaccination in the US or elsewhere, the greater the risk of more virulent or vaccine-resistant strains emerging. The Biden administration's decision to prevent the export of the raw materials for vaccines is a continuation of the self-defeating "America First" approach.

The Indian calamity has three important lessons. The first is that Covid-19 is a relentless and resilient adversary. When measures are relaxed, it easily resurges. This will continue to limit a full return to economic normality and pre-pandemic levels of travel and oil consumption until a high and effective degree of vaccinations is achieved worldwide. The longer the new abnormal persists, the more remote working, Zoom meetings and similar models become entrenched, and the more profound will be the eventual impact on oil demand.

The second is OPEC+'s continuing tense task. Their monthly meetings appear to be a sensible innovation. Responding to the renewed lockdowns in the world's third-largest oil consumer, keeping prices tolerable for consumers and monitoring an expected rebound in American demand requires near-real-time adjustment. The third is the growing need for international co-operation. None of us is safe until all are. The US, Europe and India have all stumbled this year in their pandemic response in different ways, while China and Russia's troubled relations with the West are another obstacle. Continuing fragmentation and isolation will mean a slow and patchy global convalescence.

ABU DHABI'S MURBAN FUTURES WILL ENHANCE THE EFFICIECNY OF GLOBAL OIL PRICING

Robin Mills • *A version of this article appeared in The National, Mar. 29, '21*

Shake-ups in the international oil pricing system do not come along very often. When backed by one of the world's largest national oil companies, one of the biggest futures exchanges and a group of leading traders, a new benchmark must be taken seriously. ADNOC, the Intercontinental Exchange and their partners, including leading traders and oil companies, are launching ICE Futures Abu Dhabi, or IFAD, on Monday.

IFAD will trade Murban crude oil futures on a physically settled basis. When it expires each month, holders of the contract will receive tanks of real oil. Murban is "a great crude to build a contract around", says ICE Futures Europe president Stuart Williams of Abu Dhabi's key export oil grade. The launch of Murban futures reflects three major developments. Firstly, the ever-growing shift to Asia as the world's key growth area for oil demand and imports. Secondly, the rise of exports of very light US crude, again with Asia as an important market, creating a new trade flow and need for benchmarks.

Thirdly, the problems with other price markers make Murban's launch relevant. US benchmark West Texas Intermediate and Brent from the North Sea are both light, sweet (low sulphur) crudes, typically preferred by refiners. They have long and illustrious histories. WTI futures first traded in 1983 and Brent in 1988, as the OPEC-based price system of the 1970s collapsed in the face of new competing and freely traded production. WTI prices went negative last April amid a coronavirus-induced decline in oil demand after paper traders were stuck with physical crude they could not take or sell on. It is a landlocked crude priced at Cushing, Oklahoma, and often more representative of domestic US factors than international ones.

Although Brent has a long history, it has required repeated fixes as production of the British and Norwegian crudes that underpin it declines. S&P Global Platts reports Dated Brent, the price of physical crude that is closely linked to Brent futures. In February, Platts announced a radical change: moving to Brent as a benchmark for suitable crudes delivered into Rotterdam rather than produced in the North Sea. But this move was not well received by the industry and was suspended for consultation.

DME Oman, traded on the Dubai Mercantile Exchange, is based on a medium gravity, sour (high sulphur) crude, typical of Middle Eastern oil exports. It has proved to be an excellent mechanism for buyers to obtain physical oil and in 2018, Saudi Aramco began to use it to price some of its exports. However, trading levels are significantly lower than for Brent and WTI.

Murban addresses many of these issues. It is a light, sweetish crude, a little higher in sulphur than Brent and WTI but close enough. It is loaded in Fujairah, outside the potentially risky Strait of Hormuz, a major port with growing storage and refining capacity. Its production quality is consistent, and volumes are large and poised to grow. So why now? The idea of Murban futures has been around for more than a decade but the current process was initiated in mid-2018. It reflects partly the market changes mentioned above, but also the willingness within the reformed ADNOC to think differently and break taboos.

To make Murban futures work, ADNOC has switched to forward pricing of its crude – two months ahead – instead of the old retroactive system where buyers only knew the price after a cargo had been loaded. The price for Murban will be based on the exchange instead of a national oil company determining official selling prices based on its reading of the market and setting premiums or discounts to another benchmark. ADNOC has also made Murban freely tradable instead of the usual Middle East system, in which buyers have to nominate the final destination. It has issued a rolling 12-month forecast of Murban availability, which indicates more than 1 million barrels per day out to next March, compared with Brent, which now depends on a depleting stream of less than 0.8 million bpd. Murban volumes will grow over time as ADNOC's capacity expansion plans proceed.

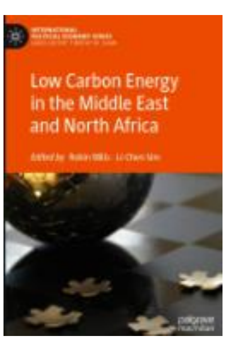
However, Murban is not intended to replace Brent or WTI but to complement them with a range of other derivatives that serve the needs of traders and refiners. New futures contracts need to attract liquidity, which begets further liquidity, to survive and flourish. ADNOC, ICE and their partners – Shell, PetroChina, Vitol and others – have done all they can to assure success. Now the market will judge.

The launch of Murban futures is about enhancing the efficiency of global oil pricing. It is also intended to be part of ADNOC's and Abu Dhabi's growing economic sophistication. As Mr Williams says, "IFAD is our 13th exchange but the first in the Middle East. The story is a global exchange setting up shop. The Abu Dhabi Global Market will be connected to the global clearing infrastructure and capital that sits in London. ICE is not just an energy exchange and we see an opportunity to expand our network here".

IFAD might help end the anomaly that the Middle East produces the biggest share of world oil but does not host its own pricing mechanism. Yet, at the same time, it is also helping the region move beyond reliance on crude exports.

POWERING IRAQ: CHALLENGES FACING THE ELECTRICITY SECTOR IN IRAQ
Authored By: Robin Mills and Maryam Salman

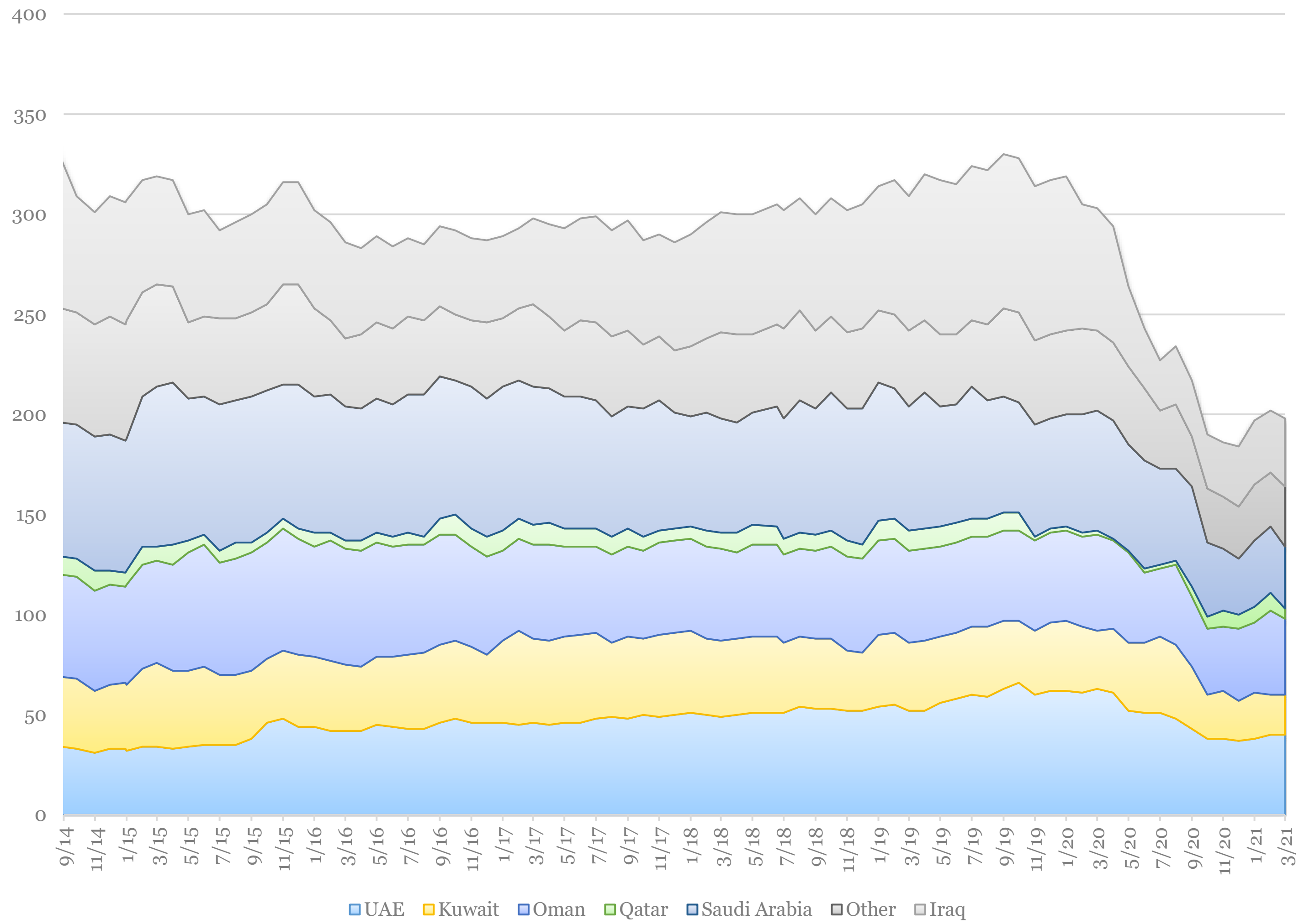
On February 21, 2020, Iraq recorded its first case of the novel coronavirus. Five months later, total recorded cases are 129 000 at the time of writing, and daily reported deaths almost 100. The crisis has battered the country's economic development plans, and put an indefinite question mark over the realisation of a massive US$ 15 billion electricity infrastructure upgrade roadmap announced by former Prime Minister Adel Abdel Mehdi in April last year. Simultaneously, global energy markets continue to struggle ever since the oil market collapsed between March and April… Read the full report *here*



LOW CARBON ENERGY IN THE MIDDLE EAST AND NORTH AFRICA
Authored By: Robin Mills, Li-Chen Sim

Over the next few decades, favorable economics for low carbon energy sources combined with stagnant oil demand growth will facilitate a shift away from today's fossil fuel-based energy system. Although the transition will impact all countries, its effects are arguably more profound in the Middle East and North Africa (MENA). This is because MENA countries are major hydrocarbon producers and significant hydrocarbon consumers and because hydrocarbons underwrite the ruling bargain between states, societies, and business. Read the full report *here*

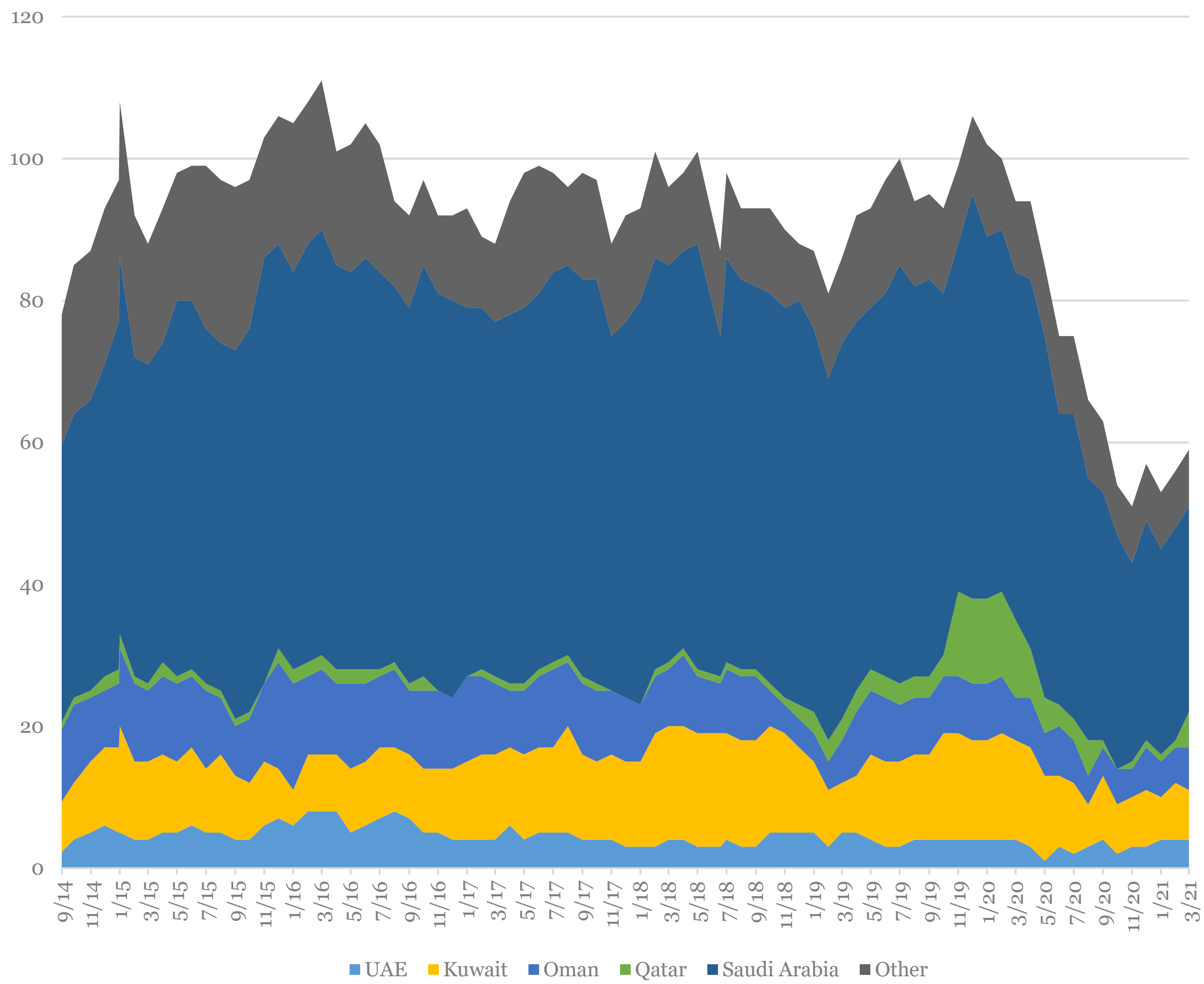
RIG COUNT SNAPSHOT: **OIL**



- The Middle East's overall oil rig count in March decreased by -3 excluding Iran due to the OPEC+ agreement.
- Iran's rig count is not included by Baker Hughes; OPEC estimates total (oil and gas) rig count in Iran at 157 in 2018, remaining the same till December 2019, which is doubtful, due to falling production and exports in the face of sanctions and CoVid-19.
- Iraq's rig count increased in March 2021 to stand at 34 after a record-low of 25 in July 2020. The rig count is expected to increase further following the country's recent agreement with French major Total to boost production at the Ratawi oilfield from the current 60 kbpd to 200 kbpd along with the Iraqi Oil Minister Ihsan Abdul-Jabbar's target to boost oil production to 8 Mbpd by 2029, which really requires addressing the challenges of the Iraqi budget in repaying IOCs and delays in required infrastructure.
- The UAE's rig count remained stable at 40 in March, still up from December 2020's levels (37). This comes as the country announced the acquisition of two additional very large crude carriers (VLCC) as it plans to increase its oil production capacity to 5 Mbpd by 2030. The expansion of the VLCC fleet will also support the ICE Murban futures, expected to boost trading of the UAE's flagship Murban crude oil, potentially reaching new customers and markets globally.
- Kuwait's March rig count remained stable at 20, although down from January's rig count of 23. We expect rig count to rise as Kuwait signed an agreement to lease out 3.14 Mbbl of oil storage to Japan's Ministry of Economy, Trade and Industry, while it plans to award contracts worth US$ 754 M to regional companies for 31 drilling towers to increase production from 3.15 Mbpd to 4 Mbpd by 2040. The three oil and gas discoveries made early this year are also likely to lead to an increase in rig count.
- Saudi Arabia's March rig count decreased by -2 to 31, the lowest since November 2020 and January 2011, due to continuing OPEC+ production cuts. The rig count is likely to remain stable as the country plans a US$ 7 trillion spending push to diversify the economy's revenue streams, which requires cutting dividends to the government to boost capital spending. This implies that Saudi Arabia will need to curb supply over the comping years to boost oil prices.

Source: Baker Hughes; OPEC

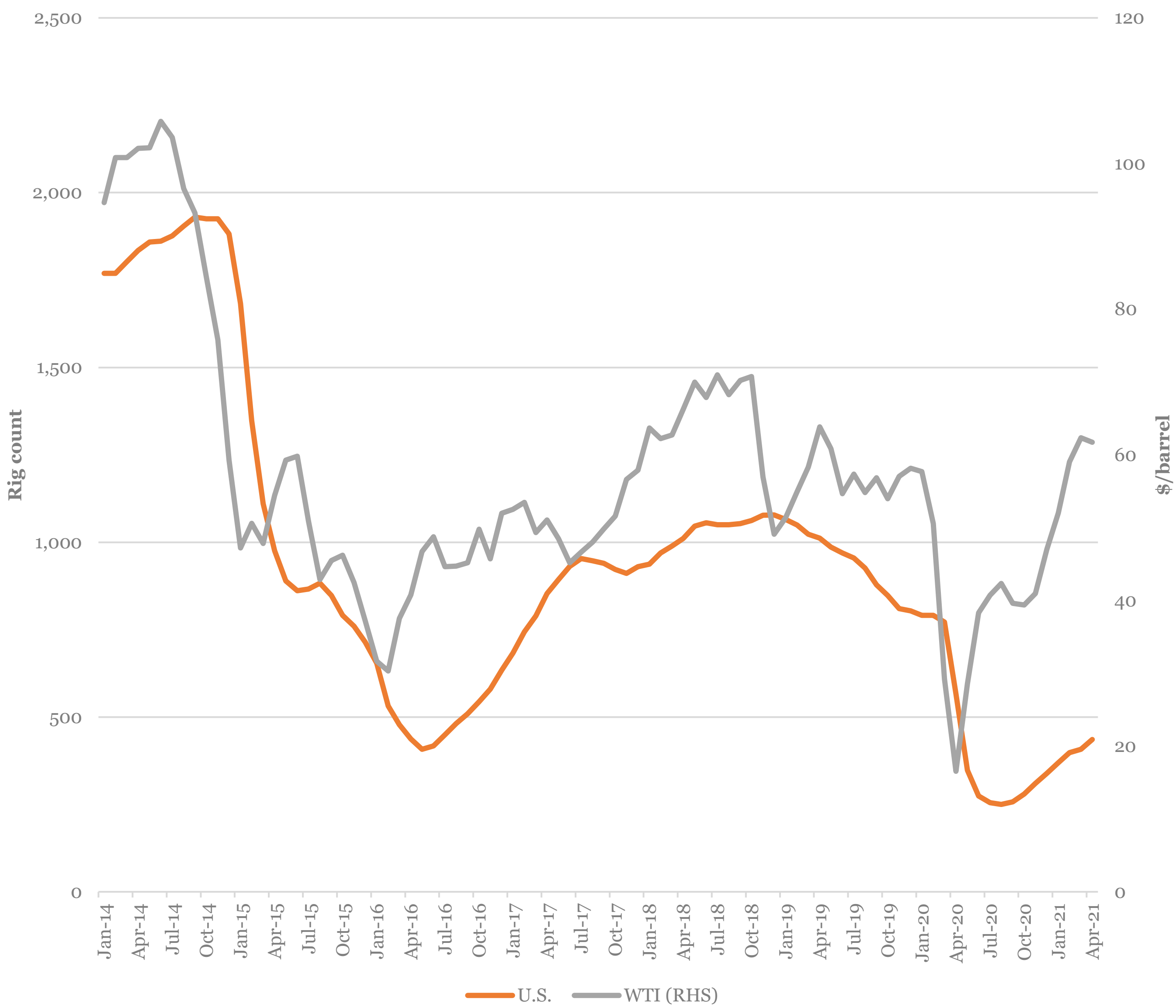
RIG COUNT SNAPSHOT: **GAS**



- The Middle East's overall gas rig count increased by +3 in March to reach 59, up from a record-low of 51 in November 2020.
- Oman's rig count increased by +1 in March to stand at 6. This is likely to increase further as gas production commenced at the BP-operated Ghazeer field (Phase 2), ahead of schedule, which will add another 0.5 Bcf/d and over 30 kbpd of condensate production. The Ghazeer project is expected to contribute an additional 410 MMscf/d by 2022, boosting the block's total capacity to 1.5 Bcf/d gas and 65 Mbpd condensate.
- Kuwait's rig count fell by -1 to stand at 7 in March, down 7 rigs from March 2020's levels. Rig count might increase in the long-term as the country pre-qualified three Chinese companies and a local firm for Northern Jurassic gas projects (worth US$ 1.5 B), with a Chinese group and a local firm submitting the lowest bids for two major Jurassic gas projects with a combined value of US$ 890 M. The country plans to allocate an additional US$ 200 M to expand Jurassic gas facilities in its Northern region, near the border with Iraq.
- The UAE's March rig count remained steady at 4. Rig count likely to increase as Abu Dhabi Gas Industries Ltd (Gasco) awarded US firm Bechtel a US$ 1.458 B EPC contract for its second package in the Onshore Gas Development (OGD-II) scheme, which will process 1,300 MMscf/d of Thamamama-F well fluid to produce 125 kbpd of condensates, and 12,000 tons per day of NGL that includes around 3,200 tons per day of ethane. Gasco has embarked on two other major gas development projects worth US$ 2 B including a new gas plant along with associated facilities,
- Qatar's rig count increased by +4 to reach 5 in March after falling to 0 in October 2020. This is caused by weak LNG demand and oversupply, but could increase, as the signing of a $19.1 B deal with South Korea to build >100 ships for its LNG exports shows some progress on the planned 2027 capacity expansion.
- Saudi Arabia's rig count decreased by -1 in March to 29, -20 rigs from March 2020 levels. This is expected to fall further after the Kingdom delayed the $18 B Marjan and Berri expansion project by 6 months as well as the $110 B development project of the 200 Tcf Jafurah gas field due to CoVid-19's economic impact. Yet, the 2.5 Bcf/d Fadhili gas processing plant has started partial operations feeding power plants and desalination plants across Saudi Arabia with gas.

Source: Baker Hughes; OPEC

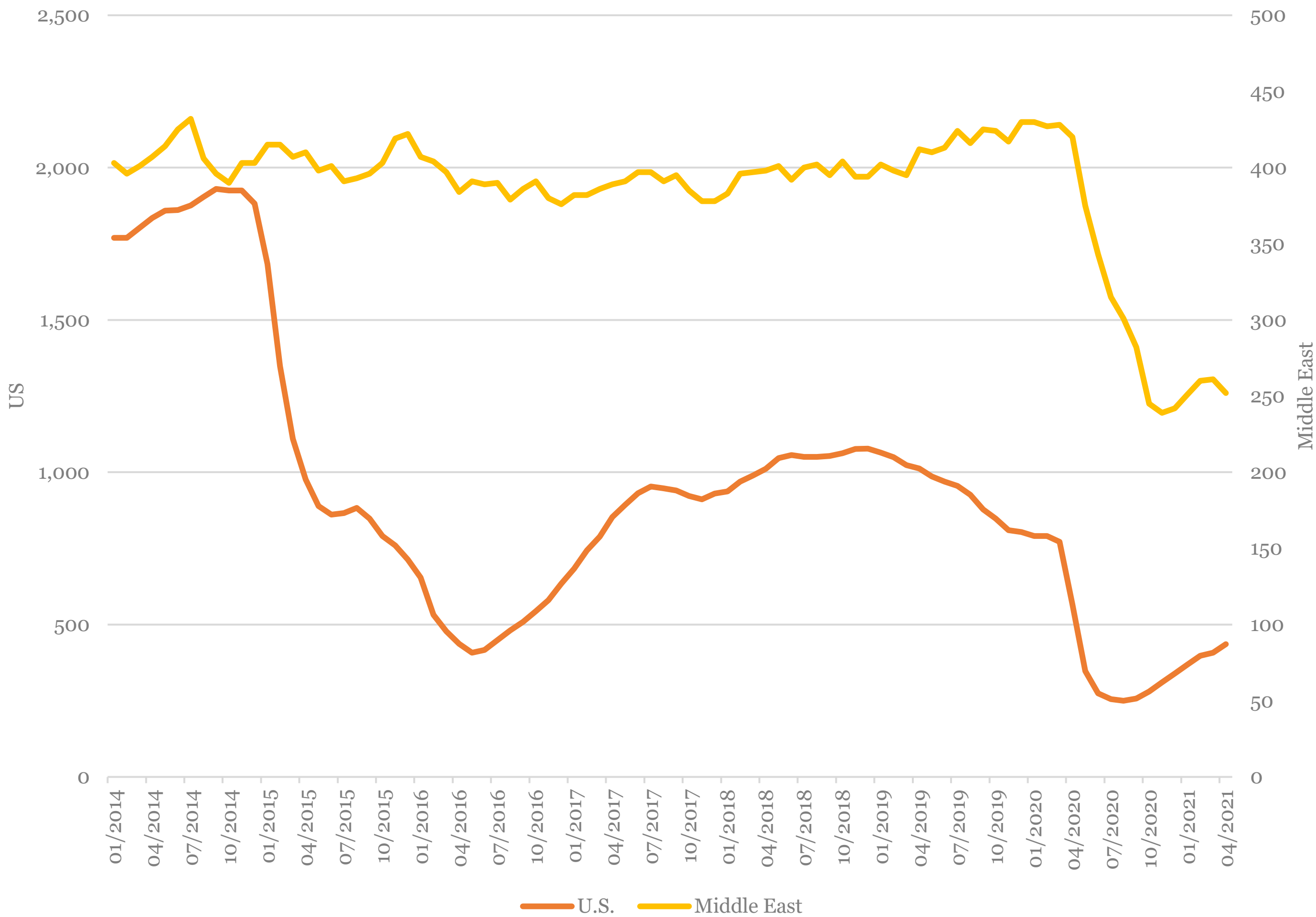
RIGS VERSUS OIL PRICES: **US RIGS & WTI**



- US rig count for April increased by +28 to 436, -130 rigs from 2019's April levels.
- Rig count at the Permian Basin was up +5 early May standing at 229, up from 198 rigs a. -240 down from last year, as the OPEC+ agreement has helped shore up prices and demand somewhat. This is, of course, supported by expenditure cuts by high-cost producers as debts and pressure rose for shareholder returns. Operating costs in the Permian Basin have not reduced, even though it has better economics than other basins. The fall in number of rigs reveals higher productivity per rig and fracking crew, but also the need for higher prices to encourage more capital investment.
- The EIA revised US crude production to average 10.9 Mbpd in Q2 2021 and increase to 11.4 Mbpd in Q4 2021, down from 11.3 Mbpd in 2020.

Source: Baker Hughes

RIG COUNT: **US & MIDDLE EAST**



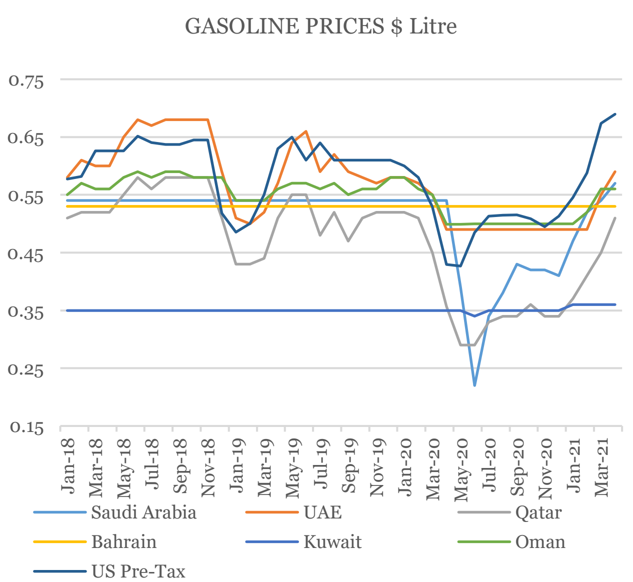
- The US' offshore rig count decreased by -1 at 11, down 6 y-o-y. This comes as the Biden administration halted lease sales for federal acreage onshore and offshore, through June as the program is being reviewed. Still, since January, the US Interior Department approved over 500 drilling permits on federal lands and waters, while operators hold around 8,000 permits ready to be used. A permanent ban on federal leasing would lead to a decline in onshore production by 1-1.2 Mbpd in the next 5 years or by 1.6 Mbpd if operators with existing leases are not allowed to get new permits. Meanwhile, offshore production will not be hampered, at least not in the next 10 years.
- Total Middle East rig count fell by -9 at 252 in April, as major MENA producers cut their production substantially (Saudi Arabia's output increased to 8.11 Mbpd) in line with the OPEC+ agreement.

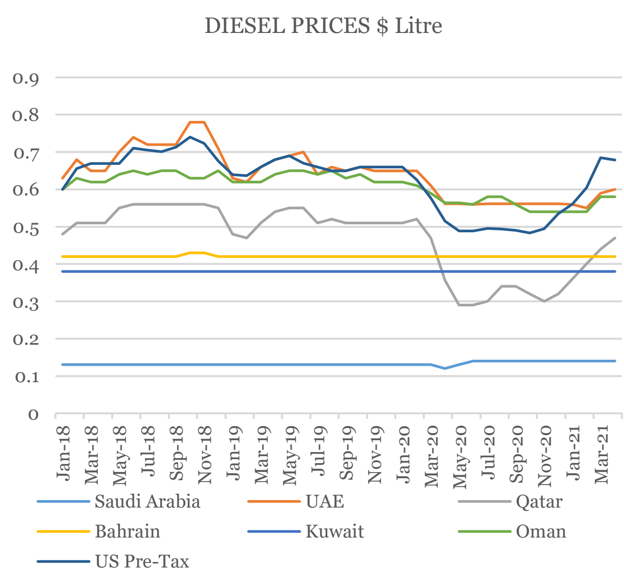
Source: Baker Hughes, EIA

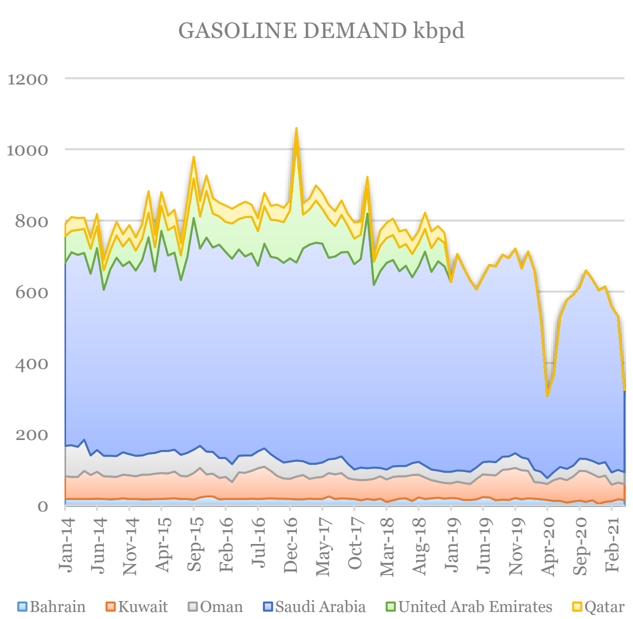
FUEL PRICES & SUBSIDY REFORMS

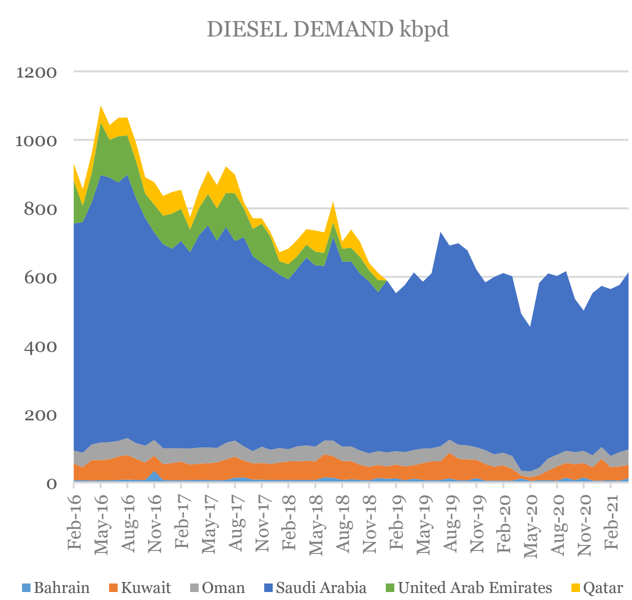
- In the UAE, gasoline and diesel April prices increased to $0.59 and $0.60 per litre respectively, with gasoline up 20% from April 2020’s levels.
- In Qatar, April prices for diesel increased to $0.47 per litre, 34% up from April 2020’s levels, while gasoline prices rose by 46% from 2020’s April prices at $0.51 per litre.
- In Oman, the price of M95 and diesel in December rose to $0.56 and $0.58 per litre, respectively.
- In Kuwait, the Parliament’s Financial and Economic committee has approved the cancellation of the decision enforced in September 2016 to raise fuel prices to ‘reduce financial burdens on citizens.’ Its gasoline prices remain the lowest in the GCC.
- In Saudi Arabia, gasoline prices have recovered slightly to $0.41 per litre after falling to lows of $0.22 per litre in May 2020 as part of relief measures introduced by the government in the wake of the pandemic.

The following charts represent the prices of gasoline 95 and diesel ($/litre) till April 2021 in the GCC countries.





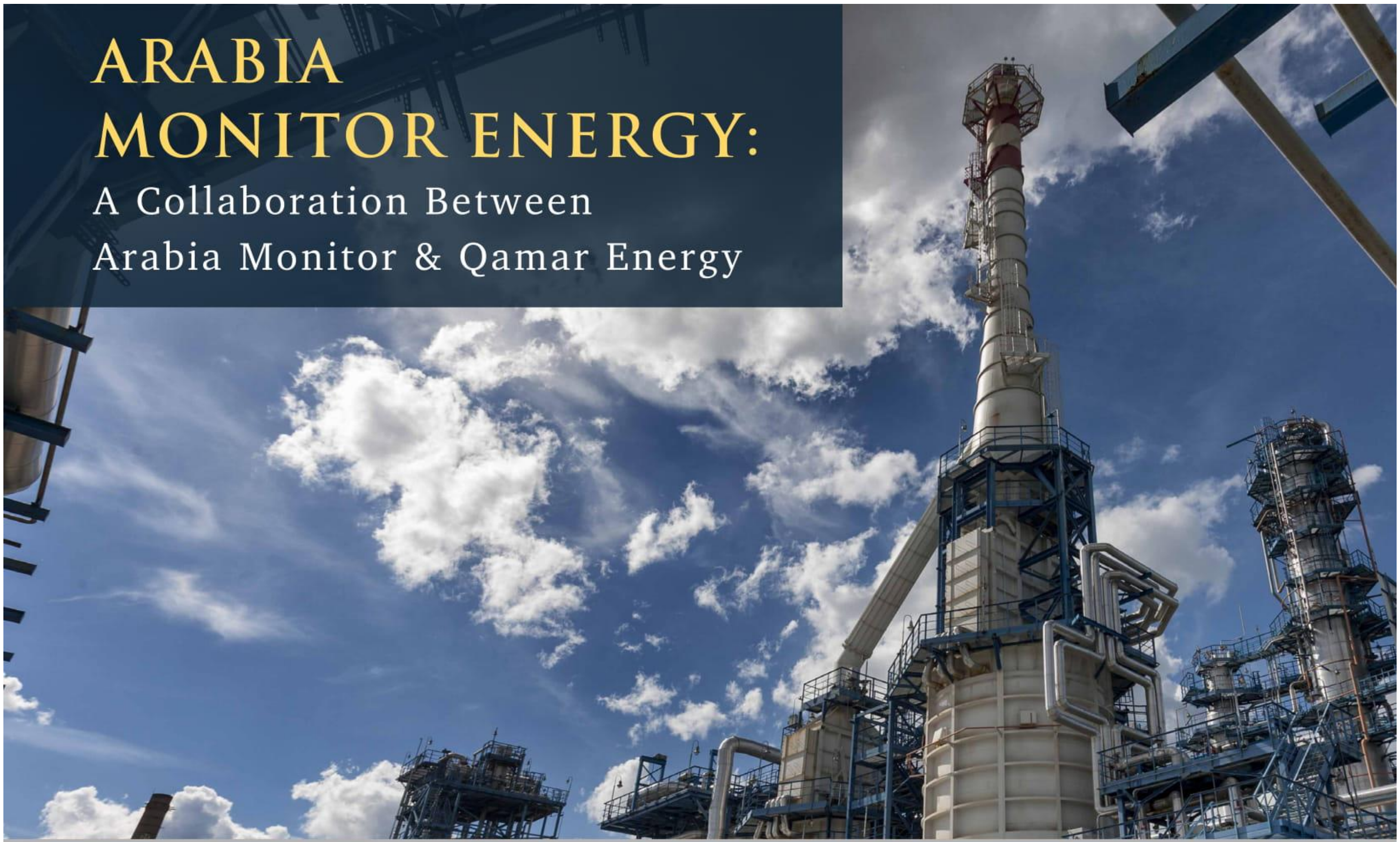




Note: JODI UAE and Qatar gasoline and diesel figures are unavailable for 2019, 2020 and 2021.

ARABIA MONITOR ENERGY:

A Collaboration Between Arabia Monitor & Qamar Energy



ARABIA MONITOR ENERGY

Oil and gas tensions in the Middle East continue to influence the volatility of the world's energy markets. The Arabia Monitor Energy, a novel collaborative effort by Qamar Energy and Arabia Monitor, combines macroeconomics, geopolitics and energy intelligence to explain what the region's energy geo-economics mean for business.

WHAT SETS IT APART?

1. INSIDE OPEC

Focussed assessment of the month's OPEC developments, policy advancements and strategies.

2. NOC & IOC ANALYSES

Examination of factors affecting NOC and IOC policies, and their impact on regional diversification schemes.

3. SPOTLIGHT THIS MONTH

Targeted reading of the geopolitical, macroeconomic and energy landscape of a MENA country utilising our specialised energy intel.

4. SCENARIOS TO WATCH

Detailed forecast of global oil developments and their impact on the risks and opportunities for MENA's oil production.

5. STRATEGIC IMPLICATIONS

Concise summary of major oil trends and their effect on investment strategies under bearish, bullish, and wobble scenarios.

6. OUTLOOK FOR THE YEAR

Cohesive outlook of the oil production, gas production, renewable energy projects, and geopolitics of key MENA countries.

WHO BENEFITS?

ENERGY TRADERS

- What factors will contribute to oil and gas price fluctuations?
- What is the outlook for oil and gas pricing?
- What is the outlook for OPEC's production and export strategy?
- How are NOCs adapting their oil marketing strategies?

INVESTMENT AND RISK ANALYSIS

- What are the operational risks and investment opportunities in MENA?
- How do economics, politics, government policy changes, production and export bottlenecks contribute to risk mitigation?

UPSTREAM FIRMS

- What are the chief economic, political and fiscal regime factors driving/limiting upstream investment decisions and progress?
- What are the oil supply outlooks for the countries by project?

DOWNSTREAM FIRMS

- What are the demand challenges, patterns, and trends for oil and oil products?

NATIONAL OIL COMPANIES

- What are future oil and gas pricing trends?
- What developments will intensify or weaken demand?
- What are IOCs' incentives and drawbacks in operating in the country?

ALTERNATIVE / RENEWABLE ENERGY ORGANISATIONS

- What are the challenges to renewable energy targets?
- What is the progress of major renewable energy projects?
- Are there opportunities for more entrants?

THE DELIVERABLES

8 MONTHLIES

- Oil Price Scorecard
- Headline Developments
- Spotlight this Month
- Scenarios to Watch
- Projects in the News
- Macro Dashboard for Oil Exporters/Importers
- Outlook for the year

4 QUARTERLIES

- MENA Map as per Political Grouping
- Map of New Licensing Rounds
- Political & Regional Security Issues
- Oil & Gas Prices Outlook
- Global Barriers to Oil & Gas Production
- Deep Dive into OPEC & NOPEC
- MENA Energy Investments
- MENA Energy Fiscal System
- MENA Energy Upstream Bidding map
- MENA Economic Outlook
- Probability Scorecard for Bearish & Bullish Oil Supply/Demand
- Investor Implication Scenarios (Under 3 Oil Price Dynamics)

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DEBOTTLENECKING SHORTCOMINGS

OPEC WATCH

OPEC Production, Mbpd			Non-OPEC Production[1], Mbpd		
April	March	% Change	April	March	% Change
25.08	25.05	-0.02%	63.6	62.9	+0.7%

Latest Organisational Changes

- At the 16th OPEC and non-OPEC Ministerial Meeting, the alliance agreed to continue oil production cuts to accelerate the rebalancing of the oil market. The meeting welcomed the group's positive performance, with overall conformity to production standing at 115% in March 2021.
- The alliance plans to roll-back its quotas by a 350 kbpd in May, an additional 350 kbpd in June and 441 kbpd in July, for an overall increase of 1.14 Mbpd, in anticipation of improved global oil demand. Saudi Arabia will end its additional voluntary 1 Mbpd cut gradually adding 250 kbpd in May, 350 kbpd in June and 400 kbpd in July.
- The alliance decided that the 30th JMMC meeting and the 17th OPEC and non-OPEC Ministerial Meeting will take place on June 1.
- The new OPEC+ cuts are based on an 17.1% reduction from October 2018 production levels (except Saudi Arabia and Russia, who each have a baseline of 11 Mbpd), compared to a 18.3% reduction during Phase-2.

OPEC Production

- Kuwait's production in April decreased by a meagre 2 kbpd to reach 2.32 matching its OPEC+ quota for the month.
- Saudi Arabia's production averaged 8.13 Mbpd in April, up 75 kbpd from its March output as it attempts to gradually end its 1 Mbpd voluntary cut, still prevailing on the group to maintain a cautious path in production policy.
- Russia's production increased by 160 kbpd above its quota to reach 9.50 Mbpd in April, highest since April 2020, as the country chases market share.
- Production from exempt OPEC members continues to be volatile; especially Iran whose production has soared in April to reach 2.39 Mbpd, up 73 kbpd from March levels and highest production since August 2019. Meanwhile, Libya pumped 1.13 Mbpd in April, highest since June 2013. The country's oil production rebound might soon find it subject to an OPEC+ quota.

OPEC+ Compliance

- OPEC+ overall compliance reached 111% in April, with strongest compliance recorded from Saudi Arabia (154%), Kuwait (102%) and all other OPEC-10, except Congo and Gabon, in an attempt to balance the market.
- Iraq's compliance reduced to 86% in April, producing 3.97 Mbpd, the highest since May 2020, mainly driven by higher crude exports.
- Nigeria's compliance worsened in April reaching 73% as the country produced 1.60 Mbpd, 84 kbpd above its quota, despite force majeure on loadings of the country's key export grade Forcados due to the shutdown of the Trans Forcados pipeline.
- The UAE's April compliance remained unchanged at 152% as output decreased to 2.61 Mbpd, in line with its OPEC+ quota of 2.62 Mbpd.

[1] Excluding OPEC NGL and non-conventionals

KEY MENA ENERGY SCORECARD

Qatar Developments

- QP will not be renewing the Qatargas Natural Gas Company limited (QG1) JV and will become the sole owner of Qatargas by 2022. Qatar Petroleum (QP) will own 100% of the QG1 – a JV between QP and affiliates of Total, ExxonMobil Marubeni and Mitsui – assets on 1st January 2022.
- QP entered a 10-year LNG Sale and Purchase Agreement (SPA) with China Petroleum & Chemical Corp. (Sinopec) to supply 2 Mtpa of LNG, with deliveries commencing in January 22 to Sinopec's LNG terminals in China
- The company also entered a long-term SPA with Vitol to supply 1.25 Mtpa of LNG to Vitol's final customers in Bangladesh
- Another SPA was signed with Pakistan State Oil Company Limited (PSO) to supply 3 Mtpa of LNG for a 10-year period, commencing deliveries in 2022 until end-2031
- QP awarded an EPC contract, worth more than US$ 2 B, to Samsung C&T Corp. for the expansion of the LNG storage and loading facilities at Ras Laffan Industrial City, part of the North Field East (NFE) project
- QP signed a multi-party agreement with LNT Marine, the American Bureau of Shipping (ABS), and Shanghai Waigaoqiao Shipbuilding (SWS) to develop new medium-large LNG carrier designs. Among the signatories to the agreement are Qatargas and affiliates of ConocoPhillips, ExxonMobil, Shell and Total.

MENA Energy Pricing Reform

- Oman introduced a 5% value-added tax across the country, expanding its application on goods and services from 93 commodities to 488, with services such as education, healthcare, and financial services to be exempt. Annual revenue from the new tax is estimated at approximately US$ 1.04 B
- In UAE, DEWA's new net metering regulations introduced 2.08 MW cap for rooftop installations and excluded ground-mounted solar projects to limit competition with its retail rates, damaging the so-far very successful commercial and industrial rooftop market, where several local players have emerged
- Saudi Arabia increased VAT to 15%, while cost of living allowances were suspended to raise revenues; meanwhile, UAE ruled out any plan to increase VAT and has considered temporary suspension till economy is back on track
- Abu Dhabi will offer industrial companies a reduction of 40% on electricity tariffs under Ghadan-21 Programme to support the private sector in exchange for significant contributions to the economy; scheme dependent on companies improving energy efficiency
- Dubai and Sharjah cut utility prices by 10% in March 2020 and FEWA (northern emirates) by 20%
- Oman will start removing utility subsidies from January 2021 in a plan, along with revised labour laws, privatisation, and new taxation, aimed at reducing a widening fiscal deficit expected to come to 10% of economic output this year

Abu Dhabi Developments

- Mubadala Investment Company, ADNOC and ADQ signed an MoU to establish the Abu Dhabi Hydrogen Alliance. ADNOC already produces around 300 ktpa of hydrogen for its downstream operation, as it plans to expand to more than 500 ktpa. Mubadala will contribute through Masdar and a network of

Kuwait Developments

- Kuwait signed an agreement with Japan's Ministry of Economy, Trade and Industry to lease out 3.14 Mbbl of oil storage, as it plans to award contracts worth US$ 754 M to regional companies for 31 drilling towers, aimed to boost production from 3.15 Mbpd to 4 Mbpd by 2040.

international technology and investment partners. ADQ, on the other hand, will contribute across the energy value chain, bringing together Abu Dhabi Ports, Abu Dhabi Airports, Etihad Rail, Etihad Steel, Abu Dhabi national Energy Company (TAQA) and Emirates Nuclear Energy Corporation (ENEC). While the alliance looks to explore green hydrogen opportunities, ADNOC places more emphasis on pursuing blue hydrogen.

- ADNOC plans to list its drilling business on the local stock market. The company is in talks with banks over a potential IPO, with a size estimate of US$ 1 B.
- Abu Dhabi strategic investor Mubadala is in talks to buy Delek's 22% stake in the offshore Tamar gas field for $1.1 billion. Delek needs to raise money to reduce its debt load. Mubadala is already an investor in East Mediterranean gas via Egypt's Zohr field.
- The ICE Futures Abu Dhabi (IFAD), a new oil trading exchange, has been launched by ADNOC and the Intercontinental Exchange, with a trading of a Murban crude futures contract. The contract is forward-priced by 2 months and will trade on a physically settled basis.
- Kuwait Oil Company (KOC) has scrapped a US$ 400 M northern heavy crude facilities development project, including 11 wells, to save cash due to pandemic-induced oil price slump, economic crisis.
- KOC has pre-qualified 3 Chinese companies (Sinopec, Sinopec Luoyang, and Jereh Oil & Gas) and 1 local firm for Northern Jurassic gas projects worth US$ 1.5 B as the country seeks to expand gas output to meet rising demand.

MENA Renewable Energy

- In Saudi Arabia, a multinational consortium, led by Masdar, France's EDF Renewables and Saudi's Nesma, kicked off the construction of a 300 MW solar park. The latter will be equipped with bifacial modules and single-axis trackers. Power will be sold to the Saudi Power Procurement Company under a 25-year power purchase agreement (PPA). The farm is scheduled to come online by 2022.
- The Kingdom has also awarded India's Larsen & Toubro construction group an EPC contract for a 1.5 GW solar project that signed a power off-take deal just recently.
- Saudi Arabia signed PPAs of roughly 3 GW of solar PV projects. The capacity will come from 7 projects. The PV park, owned by a consortium led by ACWA Power, will be the country's first utility-scale renewable energy complex.

MENA Energy Infrastructure Security

- Insurgents bombed two oil wells at Kirkuk's Bai Hassan filled, killing at least on guard. The incident shows the continuous security risk that the self-proclaimed Islamic State (ISIS) militant group poses to energy infrastructure in the region. Yet, NOC mentioned that the field's recent production level of around 70 kbpd has not been disrupted.
- Russian ballistic missile struck locations near oil refineries under Turkish control in northwestern Syria, killing 4 four people and injuring more than 20 others. The incident caused a massive blaze as dozens of tankers caught fire in the area controlled by Turkey along with its Syrian rebel proxies.

- In Jordan, Philadelphia Solar – Jordan-based solar energy equipment maker – completed the third and final phase of an 18.7 MW solar project. The project is sponsored by Jordan's Social Security Investment Fund (SSIF), costing US$ 24 M.
- In Egypt, the European Bank for Reconstruction and Development (EBRD) along with other partners, will provide a US$ 114 M financing package for the Kom Ombo 200 MW solar PV project, currently being developed by ACWA Power. Among the other financing banks, there is the OPEC Fund for International Development, the African Development Bank, the Green Climate Fund and the Arab Bank.
- In Yemen, China's Yingli Energy will supply 25 MW of solar PV modules to Sun City for the construction of water supply systems, as part of a new strategic cooperation agreement signed by the two companies, seeking to promote the use of renewable energy in the Middle East.
- Ellomay Capital Ltd, Israel-based developer will start the construction of a 156 MW pumped storage hydro project in Manara Cliff, north Israel.

MENA Nuclear Power

- Saudi Arabia is assessing Umm Huwayd and Khor Duweihin for its first nuclear power plant near the UAE and Qatari borders and has shortlisted Rosatom and KEPCO, among others
- Tendering is set for 2020, but will face significant delays due to technical plans, and ongoing negotiations with the US, who insists that it shall provide Saudi Arabia with nuclear technology only if the latter agrees to "intrusive snap inspections" by the IAEA
- On April 6, Barakah unit 1, the UAE's first nuclear reactor, entered commercial operation, reaching 100% power since December and generating 1,400 MW of electricity
- 3 more units are now closer to completion, with Unit 3 connected to the country's electricity grid on August 05 2019. Overall construction completion of the plant is at 94%
- Once fully complete, the 5.6 GW plant will meet 25% of the UAE's electricity generation, replacing about 10 BCM/yr of gas consumption

ABOUT US

Qamar Energy provides leading-edge strategy, commercial and economic consulting across the energy spectrum to governments, international oil companies (IOCs), national oil companies (NOCs), investors, and oil traders.

Robin Mills, CEO

Robin is an expert on Middle East energy strategy and economics, described by Foreign Policy as "one of the energy world's great minds". He is the author of two books, The Myth of the Oil Crisis and Capturing Carbon, columnist on energy and environmental issues for Bloomberg and The National, and comments widely on energy issues in the media, including the Financial Times, Foreign Policy, Atlantic, CNN, BBC, Sky News and others. He is a Senior Fellow with the Iraq Energy Institute, and a non-resident fellow at the Columbia Centre for Global Energy Policy. He holds a first-class degree in Geology from the University of Cambridge, and speaks five languages including Farsi and Arabic.

UPCOMING TALKS & APPEARANCES

The Arab Gulf States Institute in Washington

The Future of Renewable and Low Carbon Energy in the Middle East and North Africa
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